Internet-Based Psychodynamic versus Cognitive Behavioral Guided Self-Help for Generalized Anxiety Disorder: A Randomized Controlled Trial

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Introduction

Generalized anxiety disorder (GAD) is a common and persistent disorder characterized by intense and uncontrollable worry [1]. Even if symptom of worry in GAD can be situationally aggravated, such worry is not explained...
by reactions to recent stressful events. GAD is often co-
comorbid with other anxiety and mood disorders and the
lifetime prevalence ranges between 4.3 and 5.9% [2]. Dif-
ferent treatment options exist [2], and cognitive behavior
therapy (CBT) is the psychological treatment approach
that has received the most empirical support in terms of
the number of trials conducted [3]. Additionally, there
are some indications that psychodynamic psychotherapy
(PDT) can work well for patients with GAD [4, 5]. Re-
cently, CBT has been transposed for delivery over the In-
ternet [6] and a few randomized controlled trials have
investigated the effects of Internet-based CBT (ICBT) for
GAD [7–9]. There are now numerous controlled trials on
guided ICBT for anxiety disorders [10], but no prior stud-
ies on Internet-based PDT (IPDT). The present study
aimed at investigating the effects of a guided IPDT and
CBT for GAD. We hypothesized that participants receiv-
ing IPDT, relative to those in a waiting list condition
control, would show a statistically significant reduction of
worry and depressive symptoms and an improvement in
quality of life. In addition, we added a comparison group
who received ICBT. We expected similar outcomes for
IPDT and CBT on measures of worry [5].

Methods

Design

This was a superiority trial where two active treatments were
compared with a waiting list group with unrestricted randomiza-
tion in a 1:1:1 ratio, conducted in Sweden. Participants in the con-
trol condition were offered ICBT after the 3-month follow-up as-
sessment.

Participants and Recruitment

The study protocol was approved by the regional ethics com-
mittee. Participants were self-recruited using either a website
(www.studie.nu) which serves to recruit participants to a variety
of studies or via an advertisement in a major Swedish newspaper.
The participants received an e-mail with information about the
treatment and screening procedures, and they then entered their
personal information, answered a battery of web-administered
questionnaires for screening purposes, and finally signed and
posted a letter of informed consent that was needed to enter the
study. Those who fulfilled the initial inclusion criteria on the
screening questionnaires were then interviewed via telephone us-
ing the Structured Clinical Interview for DSM-IV Axis I Disor-
ters research version – SCID-I [11], which has been found to gen-
erate reliable diagnoses when administered over the telephone
[12]. To be eligible for inclusion, potential participants had to meet
the following criteria: (a) fulfill the diagnostic criteria for GAD
according to DSM-IV; (b) be at least 18 years old; (c) have access
to the Internet; (d) have good knowledge of the Swedish language;
(e) if taking prescribed medication for anxiety or depression, the

duration had to be at least 12 weeks, and the participant had to be
on a stable dosage for at least 6 weeks (and such participants were
instructed not to change medication and/or dosage during the trial);
(f) not be in any other psychological treatment during the
study period, and (g) not be severely depressed or suicidal as as-
essed by self-report and telephone interview. A psychiatrist
served as consultant during the entire trial. No incentives were
given for participation.

Outcome Measures

Primary Outcome Measure. The primary outcome measure in the
trial was the Penn State Worry Questionnaire (PSWQ) [13]. The
PSWQ has 16 items and is designed to capture the generality,
excessiveness and uncontrollability of pathological worry. The
PSWQ has a test-retest reliability between 0.74 and 0.93 (2–10
weeks) and Cronbach’s alpha between 0.86 and 0.93 [14].

Secondary Outcome Measures. We additionally included the
Generalized Anxiety Disorder Questionnaire IV (GAD-Q-IV)
[15] for measuring GAD symptoms. GAD-Q-IV has a test-retest
reliability of 0.81 and Cronbach’s alpha 0.84 [16]. A third measure
was the Montgomery Åsberg Depression Rating Scale – Self rated
(MADRS-S) [17], which was used to screen for the exclusion cri-
aeria of severe depression and suicidal tendencies. The test-retest
reliability of MADRS-S is between 0.80 and 0.94, and Cronbach’s
alpha varies between 0.82 and 0.90 [18]. The Quality of Life Inven-
tory (QOLI) [19] was used to measure life quality in 16 domains.
The QOLI has test-retest reliability of r = 0.92 and a Cronbach’s
alpha of 0.81 [19]. The State-Trait Anxiety Inventory (STAI state
and trait versions) [20], the Beck Depression Inventory (BDI-II)
[21], and the Beck Anxiety Inventory (BAI) [22] were used to mea-
sure depressed mood and anxiety symptoms. Psychometric prop-
erties of these two measures are good with a test-retest reliability
of r = 0.71 and Cronbach’s alpha = 0.86 for the STAI scales [20],
and equally high for the BDI including online administration
[23]. However, it should be noted that the three latter question-
naires were not administered in the 18-month follow-up with the
rationale of endeavoring to decrease the questionnaire comple-
tion burden at that point.

Clinician-Administered Measures. Psychiatric diagnoses were
assessed using the SCID-I [11]. Global functioning was measured
by the Clinical Global Improvement Scale (CGI), a 7-item inter-
view list for assessing clinical improvement [24]. Raters received
training and had to complete approved test interviews before the
trial.

Procedure

Assessment Points and Randomization. A telephone interview
was conducted before and after the treatment, as well as at the
18-month follow-up. The interview included the administration
of the SCID-I [11]. Those participants assigned to the waiting list
control group were told that they were being placed on a waiting
list and would receive treatment after a 3-month waiting period.
At posttreatment and follow-up, an estimation of the degree of
global improvement for each participant was calculated using the
CGI improvement scale [24]. After the treatment period, the in-
terviewers were blinded concerning participant status and alloca-
tion (given that the posttreatment interviewers did not have ac-
access to information about the participants). In addition, par-
ticipants were asked not to reveal whether they had received

treatment.
Three months after the end of the initial treatment period, all
self-report measures were administered again and, subsequently,
the waiting list control group received the CBT treatment. An
18-month follow-up was conducted with four self-report invento-
ries and a blinded telephone interview carried out by a trained
interviewer (who had not served as therapist nor previously
worked in the project). Questions regarding change in medication
and/or additional treatment seeking were asked at post-test and
at follow-up.

The randomization procedure was managed by an external
administrator who was not otherwise involved in the study. A true
random number service (www.random.org) was used to ensure
complete randomness. Randomization was done after inclusion
wherein participants were randomized to the three groups with
no stratification.

Interventions

Internet-Based Psychodynamic Therapy. The IPDT used in this
study was based on the method detailed in the book Make the Leap
[25], which was translated into Swedish and adapted, with the as-
sistance of the book’s author, to a format suitable for an Internet-
delivered self-help program. Make the Leap is a self-help book
based on psychodynamic principles. The reader was guided
through a program called SUBGAP, which stands for (1) Seeing
unconscious patterns that contribute to emotional difficulties, (2)
Understanding these patterns, (3) Breaking such unhelpful pat-
tterns, and (4) Guarding against patterns and/or relapses in the
future. The treatment consisted of 8 text-based treatment modules/
chapters delivered on a weekly basis. The modules varied in length
between 11 and 17 pages each, making the entire treatment consist
of 111 pages of material for the participants to read. Briefly, the
treatment modules covered (1) Introduction to GAD and the treatment
of applied relaxation; (2) Step 1 of applied relaxation [26]; (3) Step 2
of applied relaxation, and worry time; (4) Step 3 of applied relax-
ation, and cognitive restructuring; (5) Step 4 of applied relaxation,
cognitive distancing, and problem solving; (6) Step 5 of applied relax-
ation, and worry exposure; (7) Step 6 of applied relaxation,
interpersonal problem solving [27], and sleep management, and
(8) Relapse prevention and maintenance of progress. In the differ-
ent steps of applied relaxation, participants first learn the relax-
ation technique in 15-min sessions (step 1); then, the duration of
the relaxation is progressively shortened to 5–7 min (step 2),
2–3 min (step 3), 60–90 s (step 4) and finally to 20–30 s (step 5)
before the relaxation is applied in everyday life (step 6). Audio files
with instructions for applied relaxation were available as down-
loads on the project website. All treatment modules were accom-
panied by homework assignments that participants submitted to
the therapists on a weekly basis. Homework assignments had to
be completed before a particular participant could start with the
next module. The main focus for the therapists was to guide the
participants through the self-help program. Each week the par-
ticipants sent in reports on their progress that included the option
of including questions that directly addressed the therapist. Feed-
back was given as soon as possible, most often within 24 h. Except
for the weekly online treatment contact and diagnostic proce-
dures, no other contact took place between the therapists and par-
ticipants. In total, 5 therapists provided the treatment for this
group. Two of these psychologists had previous experience
guiding Internet treatment for GAD, and 3 were psychology
students in their final year. Each therapist was responsible for 4–6
participants. All therapists had received training in CBT and
identified themselves as having a CBT orientation. The therapists
were supervised by a senior researcher and licensed CBT ther-
pist. In total, four supervision sessions were given of approximat-
ely 90 min each. Feedback from the therapist was provided to the
participants on a weekly basis in association with the homework
assignments. In addition, occasional reminders were sent. The
mean therapist time devoted to each client during the overall
treatment period was 92 min (SD = 61).

Statistical Analysis

Statistical analyses were conducted using the PASW version
18.0 (SPSS Inc., Chicago, Ill., USA).

In order to account for dropouts without assuming that the
first measurement was stable (i.e. the last observation carried for-
ward assumption), we used a mixed effects models approach with
full information maximum likelihood estimation [28]. Mixed ef-
ect models are able to accommodate missing data and integrate
time-varying factors. Mixed model analyses have been recom-
manded as a way to handle intention-to-treat data [29]. A first-
order autoregressive covariance structure was used for the imme-
diate effects, and an unstructured covariance matrix structure
was employed for the long-term follow-up data.
Effect sizes are presented as Cohen's $d$ [30], defined as the difference between the means of the two groups divided by the pooled standard deviation. Within-group effect sizes are based on the pooled SDs; between-group effect sizes are based on the post-treatment means, and all effect sizes are based on collected completer's data (e.g. rather than with replacements).

$\chi^2$ was used to test for differences between the groups on categorical outcomes. To be defined as clinically recovered, a participant had to fulfill the criterion for reliable change index and had to have a posttreatment score of at least 2 standard deviations below the group mean at pretreatment [31].

We made a power calculation based on the comparison between the active treatments and the waiting list control group. In order to have 80% power to detect an effect size of $d = 0.80$, the study was sufficiently powered (alpha = 0.05). However, the comparison between the two active treatments was not sufficiently powered given the large samples needed to test for non-inferiority [32].

**Results**

**Patient Characteristics, Attrition and Adherence**

Characteristics of the included participants are presented in table 1. The three groups did not differ on any pretreatment characteristic. In table 2, we present data on comorbidity. Loss of data and participant flow are presented in figure 1. The average number of completed modules in IPDT was 5.9 (SD = 2.2), and in ICBT it was 5.1 (SD = 2.5).

**Treatment Effectiveness – Primary Outcome Measure (PSWQ)**

Observed means and Cohen’s $d$ within-group effect sizes are presented in table 3 (for estimated means see on-
line table 1). Between-group effect sizes at posttreatment were small and insignificant. On the PSWQ, there was a moderate between-group effect size between IPDT and the control condition at 3 months \((d = 0.64; 95\% \text{ CI}: -0.05 \text{ to } 1.30)\), and similarly for the ICBT versus control condition \((d = 0.76; 95\% \text{ CI}: 0.10 \text{ to } 1.33)\). The difference between the two treatments was small and statistically insignificant \((d = 0.14; 95\% \text{ CI}: -0.50 \text{ to } 0.78)\) in favor of CBT. Data on the PSWQ are presented in figure 2 to display the relatively small magnitude of the changes.

When conforming to the criteria of clinically significant improvement as defined by Jacobson and Truax [31]
## Table 3. Means ± SDs and within-group effect sizes (Cohen’s d) including confidence intervals for primary and secondary outcome measures before treatment, after treatment and at 3- and 18-month follow-up

<table>
<thead>
<tr>
<th></th>
<th>PSWQ (16–80)</th>
<th>GAD-Q-IV (0–12)</th>
<th>MADRS-S (0–54)</th>
<th>QOLI (–6 to 6)</th>
<th>STAI – state (20–80)</th>
<th>STAI – trait (20–80)</th>
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<td>64.05 ± 7.81</td>
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<td>Wait-list control</td>
<td>27</td>
<td>50.23 ± 11.82</td>
<td>22</td>
<td>53.14 ± 10.89</td>
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<td>IPDT</td>
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<td><strong>18-month follow-up</strong></td>
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<td>0.72 (0.13–1.25)</td>
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on the PSWQ, and regarding dropouts as non-responders, we found that the proportion of participants at 3 months who made a significant change was 8/27 (29.6%; 95% CI: 11.2–48.0%) for the PDT group, 12/27 (44.4%; 95% CI: 24.4–64.5%) for the CBT group, and 2/27 (7.4%; 95% CI: –0.3 to 17.9%) for the waiting list control group. This difference was significant by means of $\chi^2 = 9.48$, $p = 0.009$. On this primary measure, the difference between PDT and waiting list control group was significant, $p = 0.04$, as was the difference between CBT and the control condition, $p = 0.002$. The difference between the two treatments, PDT and CBT, was not significant; $p = 0.26$, all by $\chi^2$.

Mixed models (AR1) analysis with estimated means accounting for missing data and SDs for 81 participants was conducted for the pretreatment, posttreatment and 3-month data points (estimated means available on request). This analysis did not reveal a significant time × treatment interaction ($p = 0.21$).

In a second mixed models analysis (for estimated means see online table 2), we included the 18-month follow-up data and excluded the waiting list control group data (table available on request). This revealed a significant effect of time ($p < 0.0001$), but no interaction effect ($p = 0.94$).

**Treatment Effectiveness – Secondary Outcome Measures**

Data from the secondary measures are provided in table 3 including within-group effect sizes. Data were analyzed in a similar manner as for the primary outcome measure. Again, between-group effects immediately after treatment were small and not significant.
For the GAD-Q-IV, the effect size between IPDT and the control condition was large at 3 months (d = 1.14; 95% CI: 0.40–1.82), and similarly for the ICBT versus control condition (d = 0.87; 95% CI: 0.23–1.48) at 3 months. The difference between the two treatments was small (d = −0.13; 95% CI: −0.51 to 0.77) in favor of PDT. We found a significant interaction in the mixed models (AR1) analysis (p = 0.003), with pairwise comparisons showing that the two active treatments were superior to the waiting list group. For the 18-month follow-up data, there was a significant time effect (p < 0.0001), but no differences between IPDT and ICBT on this measure.

Data on self-reported MADRS-S showed large within-group effect sizes (table 3). The between-group effect sizes showed a slight superiority at 3 months for IPDT versus the control condition (d = 0.68; 95% CI: 0.01–1.34), but no such between-group effect was seen for ICBT versus the control condition (d = −0.18; 95% CI: −0.77 to 0.43). IPDT was not better than the CBT condition at 3 months (d = −0.39; 95% CI: −0.22 to 0.99). Mixed models (AR1) analysis did not show an interaction at 3 months. For the 18-month data where PDT and CBT were compared, we found an interaction (p = 0.02), with pairwise contrasts showing a difference in favor of ICBT at 18-month follow-up.

As a measure of quality of life, we used the QOLI. Within-group effect sizes varied, and the between-group effect sizes were nonsignificantly in favor of IPDT at 3 months (d = 0.51; 95% CI: −0.17 to 1.16) when compared with controls (d = 0.16; 95% CI: 0.03–1.35) when compared with ICBT. CBT did not differ from the control condition at 3 months (d = 0.15). Mixed models showed no interaction at 3 months, and when we analyzed the 18-month data, there were no interactions. There was however a within-group effect (p = 0.007).

Data for the STAI-S, STAI-T, BAI and BDI largely overlapped with the other measures (i.e. GAD-Q-IV). Means and effect sizes including confidence intervals are presented in table 3. There was no statistical interaction on any of these measures.

Clinical Global Functioning

All available participants were assessed in a blinded interview at posttreatment and at 18-month follow-up. The distribution of the participants in terms of clinical global improvement from baseline is presented in table 4. Given the small numbers in each group, it was not regarded feasible to test for statistical significance. As can be seen in table 4, there were no major adverse effects in terms of participants getting much or very much worse.

Diagnostic Status and Clinically Significant Change on Completers Data

At posttreatment SCID interviews, the percentage of participants who still fulfilled the GAD diagnosis was 45.5% (10/22) for the IPDT group, 65.0% (13/20) for the ICBT group, and 84.0% (21/25) for the control condition (χ² = 7.72, p = 0.02). At 18-month follow-up, this changed to 27.3% (6/22), 33.3% (6/18), and 38.1% (8/21) for the IPDT, ICBT and control condition, respectively (by which time the controls had received their CBT treatment). Table 5 displays the proportion of participants reaching the criteria of being clinically recovered – meaning that they had a reliable change and reached the 2 SD criterion of clinical significant improvement as defined by Jacobson and Truax [31].

### Table 4. Ratings of clinical CGI-I after treatment and at 18-month follow-up

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<th></th>
<th>ICBT after treatment (n = 20), %</th>
<th>ICBT 18-month follow-up (n = 24), %</th>
<th>IPDT after treatment (n = 22), %</th>
<th>IPDT 18-month follow-up (n = 22), %</th>
<th>Wait-list control after treatment (n = 25), %</th>
<th>Wait-list control 18-month follow-up (n = 21), %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very much improved</td>
<td>35.0</td>
<td>16.7</td>
<td>4.5</td>
<td>4.5</td>
<td>14.3</td>
<td></td>
</tr>
<tr>
<td>Much improved</td>
<td>10.0</td>
<td>50.0</td>
<td>36.4</td>
<td>45.5</td>
<td>42.9</td>
<td></td>
</tr>
<tr>
<td>Minimally improved</td>
<td>35.0</td>
<td>16.7</td>
<td>31.8</td>
<td>31.8</td>
<td>28.6</td>
<td></td>
</tr>
<tr>
<td>No change</td>
<td>10.0</td>
<td>12.5</td>
<td>22.7</td>
<td>13.6</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>Minimally worse</td>
<td>–</td>
<td>4.2</td>
<td>4.5</td>
<td>4.5</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>Much worse</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Very much worse</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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</tr>
</tbody>
</table>
Discussion

The present study is probably the first to demonstrate that a psychodynamically informed guided self-help treatment can be delivered over the Internet, and that it can be as effective as ICBT-informed guided self-help in the treatment of GAD. Both treatments demonstrated moderate within-group effect sizes in the primary outcome measure of worry, but were only marginally better than the waiting list group at 3-month follow-up, and did not prove to be more effective when intention-to-treat analyses were conducted (mixed models). The overall finding was, however, that the two active treatments were similar in terms of outcome on both primary and secondary outcomes. The sample was self-recruited and displayed substantial comorbidity as is commonly seen in studies on GAD [2]. While a proportion of participants improved and maintained the improvement at 18-month follow-up, there were other participants who remained symptomatic. There are several possible reasons for why robust changes were not found following the two active treatments. For example, it may be that our mainly text-based treatments are less suitable for GAD than other protocols in which more pictures are used [9]. On the other hand, we used the same CBT treatment as in our previous GAD trial, which was found to be effective. It may also be that more therapist support is needed in IPDT, even if previous ICBT studies do not indicate that this would be the case [33] given that in the PDT model participant ‘resistances’ to moving through the tasks in each module could require more individually tailored discussion with the therapists. In addition, ways to foster and encourage participants towards module completion might also be considered.

The CBT arm of the present study replicates previous guided Internet trials on GAD in which ICBT had been found to be effective [7–9], with largely similar within-group effect sizes on the PSWQ. All previous Internet-based trials have been based on CBT protocols with therapists that have, most likely, been less skilled (i.e. students) and less experienced than therapists in previous face-to-face trials on GAD [27] making comparisons to face-to-face GAD treatment studies difficult at this point.

Although the elements of the psychodynamic treatment tested in our trial can be found in the treatment tested in the trial by Leichsenring et al. [5] in terms of shared underlying psychodynamic principles, in the conduct of treatment there were clear differences due to the

Table 5. Proportion of participants considered clinically recovered (meaning that they had a reliable change and reached the 2 SD criterion of clinically significant improvement as defined by Jacobson and Truax [31])

<table>
<thead>
<tr>
<th></th>
<th>ICBT</th>
<th></th>
<th>IPDT</th>
<th></th>
<th>Wait-list control</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n/total</td>
<td>%</td>
<td>n/total</td>
<td>%</td>
<td>n/total</td>
<td>%</td>
</tr>
<tr>
<td>PSWQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After treatment</td>
<td>6/23</td>
<td>26.1</td>
<td>4/26</td>
<td>15.4</td>
<td>4/26</td>
<td>15.4</td>
</tr>
<tr>
<td>3-month follow-up</td>
<td>12/23</td>
<td>52.2</td>
<td>8/16</td>
<td>50.0</td>
<td>2/20</td>
<td>10.0</td>
</tr>
<tr>
<td>18-month follow-up</td>
<td>12/22</td>
<td>54.5</td>
<td>15/22</td>
<td>68.2</td>
<td>12/20</td>
<td>60.0</td>
</tr>
<tr>
<td>GAD-Q IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After treatment</td>
<td>8/23</td>
<td>34.8</td>
<td>9/26</td>
<td>34.6</td>
<td>11/26</td>
<td>42.3</td>
</tr>
<tr>
<td>3-month follow-up</td>
<td>11/23</td>
<td>47.8</td>
<td>11/16</td>
<td>68.8</td>
<td>5/20</td>
<td>25.0</td>
</tr>
<tr>
<td>18-month follow-up</td>
<td>22/22</td>
<td>100.0</td>
<td>21/22</td>
<td>95.5</td>
<td>19/20</td>
<td>95.0</td>
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<tr>
<td>MADRS-S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After treatment</td>
<td>10/23</td>
<td>43.5</td>
<td>3/26</td>
<td>11.5</td>
<td>4/26</td>
<td>15.4</td>
</tr>
<tr>
<td>3-month follow-up</td>
<td>7/23</td>
<td>30.4</td>
<td>5/16</td>
<td>31.3</td>
<td>6/20</td>
<td>30.0</td>
</tr>
<tr>
<td>18-month follow-up</td>
<td>13/22</td>
<td>59.1</td>
<td>6/22</td>
<td>27.3</td>
<td>10/20</td>
<td>50.0</td>
</tr>
<tr>
<td>QOLI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After treatment</td>
<td>0/23</td>
<td>0.0</td>
<td>0/26</td>
<td>0.0</td>
<td>0/26</td>
<td>0.0</td>
</tr>
<tr>
<td>3-month follow-up</td>
<td>0/23</td>
<td>0.0</td>
<td>1/16</td>
<td>6.3</td>
<td>0/20</td>
<td>0.0</td>
</tr>
<tr>
<td>18-month follow-up</td>
<td>1/22</td>
<td>4.5</td>
<td>1/22</td>
<td>4.5</td>
<td>0/20</td>
<td>0.0</td>
</tr>
</tbody>
</table>

By the time of the 18-month follow-up, the control group had received the same treatment as the ICBT. Completer data presented.
In Internet-based treatments, the therapist is less important in the therapy room as one focus for interpretation, and is reliant on the transference relationship that happens between the therapist and client, which is in line with previous Internet trials [37]. In addition, there was little overlap between the two treatments, as the PDT did not include any homework assignments, no relaxation, worry control or any typical CBT ingredients. One difference, however, was the fact that the IPDT therapists received more supervision with 7 sessions compared to 4 in the ICBT group. There is no research on the importance of supervision in ICBT, and since IPDT was a novel treatment for the therapists who participated, we assumed that more supervision would be needed. However, this is a potential systematic difference between the two treatments that also has implications for costs of delivering the treatment.

It may be interesting to note for the purposes of future investigation that, in one regard, there may be some overlap between psychodynamic and CBT procedures in general. In the PDT treatment, there was a focus on discovering unconscious patterns, on making the 'unconscious conscious' consistent with the cornerstones of psychodynamic theory, and through such insight and through understanding a psychodynamic pattern’s connection to a person's history (another way of discussing the 'repetition compulsion') and/or with his or her underlying emotions or motives, to initiate a change in such patterns. Similarly, in the CBT condition there was a focus on identifying and challenging habitual cycles of negative thought through the processes of cognitive restructuring and/or cognitive diffusion.

One could argue that the psychodynamic approach to recognizing and working through unproductive patterns and the cognitive behavioral approach to restructuring negative thoughts could be seen as sharing some similarities that stem back to the crossroads whereupon CBT was conceived, and could be reflective of the psychodynamic approaches in which some of the fathers of CBT were trained. Nevertheless, regardless of such philosophically overarching issues, it is probably safest to regard our present study as a proof-of-concept trial and recommend that the SUBGAP treatment, which represents the first well-manualized and research-friendly form of psychodynamic self-guided treatment, needs to be tested further given the fact that the literature on Internet-based psychological treatment is dominated by CBT approaches [6].

This study has several limitations in addition to attempting to address the obvious question of whether or not PDT can be presented effectively over the Internet. First, although we did have a control group, it was not an active control group with a placebo condition (such as one that emulated the module model but did not deliver a treatment), the presence of which would have further enhanced the strength of the research design. Oddly, the waiting-list group did show some notable improvements during the waiting period, which may be related to the extensive test procedures both in terms of online questionnaires and telephone interviews before and after the treatment period and nonspecific helpful effects between interviewer and participant. However, in previous Internet trials on GAD control groups, participants did not improve at all during the waiting period [7, 8]. In addition, as we offered treatment to the waiting list control group after the waiting period, we have no control group at the 18-month follow-up. Second, the dropout rate was substantial in the trial, and in particular the low response rate at 3-month follow-up for the PDT group limits the value of the findings. Third, the external validity of the findings remains as yet untested, as we recruited participants via newspaper advertisement rather than from a treatment clinic. There are prior studies showing that the effects of ICBT are generalizable to more customary clinical settings [38–40], but it is still an open question if this
is the case for IPDT as well. For example, as seen in table 1, in the present study, a large proportion of the participants had completed higher education following gymnasium (i.e. after 18 or 19 years of age). On the other hand, while not recruited from a clinical setting, the sample recruited in this present study was certainly characterized by a high level of comorbidity and showed scores on the symptom-specific measures that did not indicate a lower level of distress than would be expected from a sample recruited in a clinical setting.

In conclusion, this study opens up treatment possibilities and accessibility by suggesting that psychodynamic treatment approaches may be transferred to the guided self-help format and delivered via the Internet.

Acknowledgements

This study was supported by a research grant from the Swedish council for working and life research (Dr. Andersson). We wish to express our great appreciation of the important work done by the following persons: Stina Airola von Scherling, Oskar Eriksson, Emil Holmer and Mattias Holmqvist Larsson for working as Internet therapists, and Andreas Rosseau (MD, PhD) for serving as back-up regarding diagnostic issues and medication.

References


